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USSN 09/831,566

1263.

REMARKS

Applicants respectfully request reconsideration and allowance of this application in view of the amendments above and the following comments.

Amendments have been made to claims 21-24, 26-30, 32 and 39. A clean copy of these claims is presented above. A mark-up showing the changes that have been made to these claims using brackets and underlining is attached.

Claims 21-24, 26-30, 32, 33, 35 and 37 were rejected under 35 USC §102(b) as being anticipated by Moumen et al. ("Moumen"), *Chem. Mater.*, 8:1128-1134 (1996).

Claim 36 was rejected under 35 USC §103(a) as being obvious over Moumen.

In response to *both* rejections based on Moumen, Applicants would remind the Examiner that anticipation requires that each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference, and, further, the absence in the prior art reference of even a single one of the claim elements is sufficient to negate anticipation. *In re Robertson*, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Since Moumen does not teach all of the claim elements required by the instant claims, Applicants submit that

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Moumen does not anticipate the instant claims. Further, since Moumen does not teach or suggest the changes in Moumen's procedure that would be necessary to achieve the present claimed invention, Moumen cannot render obvious the present claims.

same method by using a different solvent

Moumen teaches the preparation of nanosized cobalt/iron mixed metal oxides, which are stable against undesired agglomeration only if large amounts of an organic solvent, especially 50% ethylene glycol, is used. In contrast, one of the main objects of the present invention is to avoid the use of such organic solvents, and, indeed, are stable in 100% water. Clearly, the inventive colloids are fundamentally different from Moumen's colloids, having different properties, and, consequently, there is no anticipation. Further, Moumen actually leads persons skilled in the art away from rather than towards the inventive colloids, and, therefore, there is no obviousness either.

Claims 21, 22 and 26 were rejected under 35 USC §102(b) as being anticipated by Reetz et al. ("Reetz"), *Angewandte Chemie*, 108:2228-2230 (1996). In response, Applicants submit that Reetz does not teach water-soluble metal oxide colloids, as presently claimed. Instead, Reetz teaches organic solvent-soluble cobalt colloids, which are prepared by the oxidation of cobalt colloids in organic solvents in the presence of stabilizing tetraalkylammonium salts. Reetz's colloids are not water-soluble, as required by the instant claims, nor can they be prepared in water. Consequently, Reetz does not anticipate the present claims.

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Claims 21-24, 26-30, 32-35 and 37-41 were rejected under 35 USC §102(b) as being anticipated by Bonnemann et al. ("Bonnemann"), WO 96/17685.

Claim 36 was rejected under 35 USC §103(a) as being obvious over Bonnemann.

Claims 42 and 44 were rejected under 35 USC §103(a) as being obvious over Bonnemann in view of Day et al. ("Day"), U.S. Patent No. 4,197,187.

*rel 38, 39 & 41 here  
call for metal colloids*

In response to *all three* rejections based on Bonnemann, Applicants point out that the products thereof are *metal* colloids prepared by the reduction of metal salts in the presence of water-soluble stabilizers. They are, thus, clearly different from the instantly claimed water-soluble *metal oxide* colloids, and, consequently, there is no anticipation. Further, nothing in Bonnemann alone or in combination with Day teaches or suggests the preparation and use of metal oxide colloids. Accordingly, there is no obviousness either.

Claims 21-25, 27-31 and 33-45 were rejected under 35 USC §112, first paragraph, as being broader than the enabling disclosure. In response, Applicants point out that the previous claims required that the colloids were "stabilized" by the water-soluble additive (e.g., claims 21-26) or that the water-soluble additive was "stabilizing" (e.g., claims 27-37). In either case, the language expressly excluded, for example, water-soluble UV absorbers that did not stabilize the colloids. In other words, Applicants submit that the previous claim language was already

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tailored to be exactly commensurate in scope with the enabling disclosure, and, as a result, already precluded the water-soluble UV absorber species the Examiner believed were within the wording of the previous claims, but could not effect stabilization. In order to make the wording clearer, Applicants have amended the claims to require that the water-soluble additive is "capable of stabilizing said colloids." Applicants submit that there is no reason to limit Applicants narrower than this language as it already excludes species, for example, water-soluble UV absorber species, which are not capable of stabilizing the colloids.

Claims 26, 32 and 39 were rejected under 35 USC §112, second paragraph, as being indefinite. In response, Applicants have amended the rejected claims to correct the typographical errors in claims 26 and 32 and to correct the Markush language in claim 39.

For the record, Applicants emphasize that although the claims were amended to overcome the enablement and indefiniteness rejections, and, therefore, might be considered to have been amended for a reason substantially related to patentability, a fair reading of the amended claims will reveal that the departures from the previous claims were for clarification purposes only, and that Applicants did not narrow the claims in any material respect. Therefore, Applicants submit that the amended claims are entitled to the full range of equivalents.

Applicants believe that the foregoing constitutes a bona fide response to all outstanding objections and rejections.

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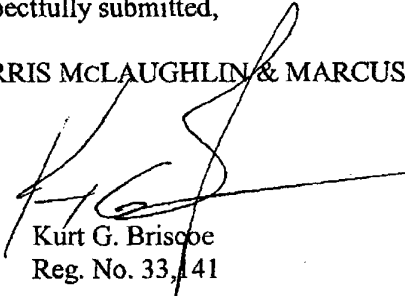
Applicants also believe that this application is in condition for immediate allowance. However, should any issue(s) of a minor nature remain, the Examiner is respectfully requested to telephone the undersigned at telephone number (212) 808-0700 so that the issue(s) might be promptly resolved.

Early and favorable action is earnestly solicited.

Respectfully submitted,

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By

  
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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that the foregoing Amendment under 37 CFR § 1.111 and the attached Mark-Up Showing the Changes Made in the Previous Claims to Yield the Claims as Amended Above (12 pages total) are being facsimile transmitted to the United States Patent and Trademark Office on the date indicated below:

Date: December 26, 2002

By:

  
Kurt G. Briscoe

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**MARK-UP SHOWING THE CHANGES MADE IN THE PREVIOUS CLAIMS TO  
YIELD THE CLAIMS AS AMENDED ABOVE**

--21. (Once Amended) Additive-stabilized, water-soluble metal oxide colloids having particle sizes ranging from 0.5 - 5 nm, comprising at least one metal of groups VIb, VIIb, VIII, Ib or IIb of the Periodic Table, and stabilized by at least one water-soluble additive capable of stabilizing said colloids.--

--22. (Once Amended) Colloids according to claim 21, which are monometal-oxide colloids having particle sizes ranging from 0.5 - 5 nm, comprising a metal of groups VIb, VIIb, VIII, Ib or IIb of the Periodic Table, and stabilized by at least one water-soluble additive capable of stabilizing said colloids.--

--23. (Once Amended) Colloids according to claim 21, which are bimetal-oxide colloids or multimetal-oxide colloids having particle sizes ranging from 0.5 - 5 nm, comprising a plurality of metals of groups VIb, VIIb, VIII, Ib or IIb of the Periodic Table, and stabilized by at least one water-soluble additive capable of stabilizing said colloids.--

--24. (Once Amended) Colloids according to claim 21, which are bimetal-oxide colloids or multimetal-oxide colloids having particle sizes ranging from 0.5 - 5 nm, comprising a metal of the main group of the Periodic Table and one or more metals of groups VIb, VIIb, VIII, Ib or IIb of the Periodic Table, and stabilized by at least one water-soluble additive capable of stabilizing said colloids.--

--26. (Once Amended) Colloids according to claim 21, wherein said at least one water-soluble additive capable of stabilizing said colloids is selected from the group consisting of amphiphilic [betaines] betaines, cationic surfactants, anionic surfactants, nonionic surfactants,

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and water-soluble polymers.--

--27. (Once Amended) A process for preparing colloids according to claim 21, said process comprising hydrolyzing or condensing at least one metal salt in an aqueous solution comprising a base in the presence of a [stabilizing] water-soluble additive capable of stabilizing said colloids.--

--28. (Once Amended) The process according to claim 27, which is for the preparation of monometal-oxide colloids, and comprises hydrolyzing or condensing a salt of a metal of groups VIb, VIIb, VIII, Ib or IIb of the Periodic Table in an aqueous solution comprising a base in the presence of a [stabilizing] water-soluble additive capable of stabilizing said colloids.--

--29. (Once Amended) The process according to claim 27, which is for the preparation of bimetal-oxide colloids or multi-metal oxide colloids, and comprises hydrolyzing or condensing salts of a plurality of metals of groups VIb, VIIb, VIII, Ib or IIb of the Periodic Table in an aqueous solution comprising a base in the presence of a [stabilizing] water-soluble additive capable of stabilizing said colloids.--

--30. (Once Amended) The process according to claim 27, which is for the preparation of bimetal-oxide colloids, and comprises hydrolyzing or condensing a salt of a metal of the main group of the Periodic Table and a salt of a metal of groups VIb, VIIb, VIII, Ib or IIb of the Periodic Table in an aqueous solution comprising a base in the presence of a [stabilizing] water-soluble additive capable of stabilizing said colloids.--

--32. (Once Amended) The process according to claim 27, wherein the [stabilizing] water-soluble additive capable of stabilizing said colloids is selected from the group consisting of amphiphilic [beatins] betaines, cationic surfactants, anionic surfactants,

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nonionic [surfactants] surfactants, and water-soluble polymers.--

--39. (Once Amended) The process according to claim 38, which is conducted in the presence of a reduction agent selected from the group consisting of hydrogen, hypophosphite [or] and formate.--